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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER
RAO, ANAND SHASHIKANT

ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/521,709	MARQUANT, GWENAELLE
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _04 February 2009_.
2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-13_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-13_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☒ All   b) ☐ Some * c) ☐ None of:
       1. ☒ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Applicant's arguments with respect to claims 1-13 as filed on 2/4/09 have been

considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al,

(hereinafter referred to as "Hsu") in view of Lee et al., (US Patent: 5,565,920 hereinafter referred

to as "Lee")

        Hsu discloses a method for encoding a digital video signal (Hsu: figures 6A-6B, 7, 9A-

9B, 10B), said digital video signal comprising at least a scene cut (CUT) followed by a set of

images (Hsu: column 34, lines 25-34), said method comprising: localizing said scene cut (CUT)

within the digital video signal (Hsu: column 34, lines 55-65), defining a sub-set of visually non-

relevant images (IS) within said set of images (Hsu: column 36, lines 35-42), and issuing a set of

encoded visually non-relevant images (IS') from said sub-set of visually non- relevant images

(IS) by calculating said set of encoded visually non-relevant images (IS') from a first visually

relevant image (I(t0+2)) located after said scene cut (CUT) (Hsu: column 35, lines 40-55), as in

claim 1. However, Hsu fails to disclose implementing the defining step such that the sub-set of

visually non-relevant images comprises images following a scene cut that cannot be perceived correctly by a human as in the claim. Lee discloses using a global motion metric for determining sub-sets of frames that can be designated as non-relevant images because they exhibit either forward temporal masking (Lee: column 2, lines 50-64) or backward masking (Lee: column 8, lines 40-65), and represent images that are not perceivable by humans (Lee: column 7, lines 45-67; column 8, lines 1-20) in order to allow for coarse I frame coding after a detected scene change (Lee: column 9, lines 20-35) and thus confer more flexibility in GOP bit allocation as based on a scene change (Lee: column 9, lines 30-55). Accordingly, given this teaching, it would have been obvious at the time of the invention to take the Lee disclosure of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change and incorporate that teaching into the Hsu scene change proximal bit allocation process (Hsu: column 35, lines 40-55) in order to confer the advantage of more flexibility in GOP bit allocation and thus implement more efficient coding. The Hsu method, now incorporating the Lee teaching of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change, has all of the features of claim 1.

　　　　Regarding claim 2, the Hsu method, now incorporating the Lee teaching of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change, has wherein the calculation of said set of encoded visually non-relevant images (IS') is comprises computing an encoded visually relevant image (I'(t0+2)) from said first visually relevant image (I(t0+2)) and by duplicating said encoded visually relevant image (I'(t0+2)) so as to form the set of encoded visually non-relevant images (IS') (Hsu: column 38, lines 30-50), as in the claim.

Regarding claim 3, the Hsu method, now incorporating the Lee teaching of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change, has wherein calculating the set of encoded visually non-relevant images (IS') comprises using a general coarse motion compensation of said visually relevant image (i(t0+2)) (Hsu: column 35, lines 55-67; column 36, lines 1-15), as in the claim.

Hsu discloses a computer program embodied in a computer readable medium for an encoder (ENC), comprising a set of instructions for execution by the encoder (ENC), which, when loaded into said encoder (ENC), causes the encoder (ENC) to carry out the method of encoding of a digital video signal (VS) (Hsu: column 16, lines 60-67; column 17, lines 1-8 and 53-67; column 18, lines 1-13; column 40, lines 37-40), including at least a scene cut followed by a set of images (Hsu: column 34, lines 40-50), the computer program comprising: instructions for localizing said scene cut (CUT) within the digital video signal (Hsu: column 34, lines 55-65), instructions for defining a sub-set of visually non-relevant images (IS) within said set of images (Hsu: column 36, lines 35-42), and instructions for issuing a set of encoded visually non-relevant images (IS') from said sub-set of visually non- relevant images (IS) by calculating said set of encoded visually non-relevant images (IS') from a first visually relevant image (I(t0+2)) located after said scene cut (CUT) (Hsu: column 35, lines 40-55), as in claim 4. However, Hsu fails to disclose implementing the defining step such that the sub-set of visually non-relevant images comprises images following a scene cut that cannot be perceived correctly by a human as in the claim. Lee discloses using a global motion metric for determining sub-sets of frames that can be designated as non-relevant images because they exhibit either forward temporal masking (Lee: column 2, lines 50-64) or backward masking (Lee: column 8, lines 40-65), and represent images

that are not perceivable by humans (Lee: column 7, lines 45-67; column 8, lines 1-20) in order to

allow for coarse I frame coding after a detected scene change (Lee: column 9, lines 20-35) and

thus confer more flexibility in GOP bit allocation as based on a scene change (Lee: column 9,

lines 30-55). Accordingly, given this teaching, it would have been obvious at the time of the

invention to take the Lee disclosure of using a global motion metric for determining the presence

of temporal masking effects in frames after a scene change and incorporate that teaching into the

Hsu scene change proximal bit allocation process in the form of a computer program (Hsu:

column 35, lines 40-55) in order to confer the advantage of more flexibility in GOP bit allocation

and thus implement more efficient coding. The Hsu method as implemented as a computer

program, now incorporating the Lee teaching of using a global motion metric for determining the

presence of temporal masking effects in frames after a scene change, has all of the features of

claim 4.

       Hsu discloses computer program embodied in a computer readable medium for a

computer, comprising a set of instructions for execution by the computer, which, when loaded

into said computer, causes the computer to carry out the method of encoding of a digital video

signal (VS) (Hsu: column 16, lines 60-67; column 17, lines 1-8 and 53-67; column 18, lines 1-

13; column 40, lines 37-40), including at least a scene cut followed by a set of images (Hsu:

column 34, lines 40-50), the computer program comprising: instructions for localizing said scene

cut (CUT) within the digital video signal (Hsu: column 34, lines 55-65), instructions for

defining a sub-set of visually non-relevant images (IS) within said set of images (Hsu: column

36, lines 35-42), and instructions for issuing a set of encoded visually non-relevant images (IS')

from said sub-set of visually non- relevant images (IS) by calculating said set of encoded

visually non-relevant images (IS') from a first visually relevant image (l(t0+2)) located after said

scene cut (CUT) (Hsu: column 35, lines 40-55), as in claim 5. However, Hsu fails to disclose

implementing the defining step such that the sub-set of visually non-relevant images comprises

images following a scene cut that cannot be perceived correctly by a human as in the claim. Lee

discloses using a global motion metric for determining sub-sets of frames that can be designated

as non-relevant images because they exhibit either forward temporal masking (Lee: column 2,

lines 50-64) or backward masking (Lee: column 8, lines 40-65), and represent images that are

not perceivable by humans (Lee: column 7, lines 45-67; column 8, lines 1-20) in order to allow

for coarse I frame coding after a detected scene change (Lee: column 9, lines 20-35) and thus

confer more flexibility in GOP bit allocation as based on a scene change (Lee: column 9, lines

30-55). Accordingly, given this teaching, it would have been obvious at the time of the invention

to take the Lee disclosure of using a global motion metric for determining the presence of

temporal masking effects in frames after a scene change and incorporate that teaching into the

Hsu scene change proximal bit allocation process in the form of a computer program (Hsu:

column 35, lines 40-55) in order to confer the advantage of more flexibility in GOP bit allocation

and thus implement more efficient coding. The Hsu method as implemented as a computer

program, now incorporating the Lee teaching of using a global motion metric for determining the

presence of temporal masking effects in frames after a scene change, has all of the features of

claim 5

Hsu discloses a video encoder (ENC) for processing a digital video signal (VS) (Hsu:

figures 2-3), said video signal comprising at least a scene cut (CUT) followed by a set of images

(IS) (Hsu: column 34, lines 25-34), the video encoder (ENC) comprising: localization means

(M1) for localizing said scene cut (CUT) within the digital video signal (VS) (Hsu: column 34,

lines 55-65), definition means (M2) for defining a sub-set of visually non-relevant images (IS)

within said set of images (Hsu: column 36,lines 35-42), and calculation means (M3) for issuing a

set of encoded visually non-relevant images (IS') from the sub-set of visually non-relevant

images (IS), said set of encoded visually non- relevant images (IS') being calculated from a first

visually relevant image (I(t0+2)) located after said scene cut (CUT) (Hsu: column 35, lines 40-

55), as in claim 6. However, Hsu fails to disclose a definition means such that the sub-set of

visually non-relevant images comprises images following a scene cut that cannot be perceived

correctly by a human as in the claim. Lee discloses using a global motion metric for determining

sub-sets of frames that can be designated as non-relevant images because they exhibit either

forward temporal masking (Lee: column 2, lines 50-64) or backward masking (Lee: column 8,

lines 40-65), and represent images that are not perceivable by humans (Lee: column 7, lines 45-

67; column 8, lines 1-20) in order to allow for coarse I frame coding after a detected scene

change (Lee: column 9, lines 20-35) and thus confer more flexibility in GOP bit allocation as

based on a scene change (Lee: column 9, lines 30-55). Accordingly, given this teaching, it would

have been obvious at the time of the invention to take the Lee disclosure of using a global motion

metric for determining the presence of temporal masking effects in frames after a scene change

and incorporate that teaching into the Hsu scene change proximal bit allocator (Hsu: column 35,

lines 40-55) in order to confer the advantage of more flexibility in GOP bit allocation and thus

implement more efficient coding. The Hsu video encoder, now incorporating the Lee teaching of

using a global motion metric for determining the presence of temporal masking effects in frames

after a scene change, has all of the features of claim 6.

Regarding claim 7, the Hsu video encoder, now incorporating the Lee teaching of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change, has wherein said calculation means (M3) issues a set of encoded visually non-relevant images (IS') by computing an encoded visually relevant image (I'(t0+2) from said first visually relevant image (I(t0+2)) and by duplicating said encoded visually relevant image (I'(t0+2) to form said set of encoded visually non-relevant images (Hsu: column 38, lines 30-50), as in the claim.

Regarding claim 8, the Hsu video encoder, now incorporating the Lee teaching of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change, has wherein said calculation means (M3) issues a set of processed images by means of a general coarse motion compensation of said visually distinguishable image (I(tO+2)) to form the set of encoded visually non-relevant images (IS') (Hsu: column 35, lines 55-67; column 36, lines 1-15), as in the claim.

Regarding claim 9, Hsu discloses video communication system comprising a video encoder (ENC), which is able to receive a digital video signal (VS), said signal being processed by the encoder (ENC) (Hsu: column 4, lines 3-51), as specified.

Regarding claim 10, the Hsu method as implemented as a computer program, now incorporating the Lee teaching of using a global motion metric for determining the presence of temporal masking effects in frames after a scene change, has wherein the calculation of said set of encoded visually non-relevant images (IS') is comprises computing an encoded visually relevant image (I'(t0+2)) from said first visually relevant image (I(t0+2)) and by duplicating said

encoded visually relevant image (I'(t0+2)) so as to form the set of encoded visually non-relevant

images (IS') (Hsu: column 38, lines 30-50), as in the claim.

Regarding claim 11, the Hsu method as implemented as a computer program, now

incorporating the Lee teaching of using a global motion metric for determining the presence of

temporal masking effects in frames after a scene change, has wherein calculating the set of

encoded visually non-relevant images (IS') comprises using a general coarse motion

compensation of said visually relevant image (i(t0+2)) (Hsu: column 35, lines 55-67; column 36,

lines 1-15), as in the claim.

Regarding claim 12, the Hsu method as implemented as a computer program, now

incorporating the Lee teaching of using a global motion metric for determining the presence of

temporal masking effects in frames after a scene change, has wherein the calculation of said set

of encoded visually non-relevant images (IS') is comprises computing an encoded visually

relevant image (I'(t0+2)) from said first visually relevant image (I(t0+2)) and by duplicating said

encoded visually relevant image (I'(t0+2)) so as to form the set of encoded visually non-relevant

images (IS') (Hsu: column 38, lines 30-50), as in the claim.

Regarding claim 13, the Hsu method as implemented as a computer program, now

incorporating the Lee teaching of using a global motion metric for determining the presence of

temporal masking effects in frames after a scene change, has wherein calculating the set of

encoded visually non-relevant images (IS') comprises using a general coarse motion

compensation of said visually relevant image (i(t0+2)) (Hsu: column 35, lines 55-67; column 36,

lines 1-15), as in the claim.

Conclusion

4.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The

examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andy S. Rao
Primary Examiner
Art Unit 2621

asr
/Andy S. Rao/
Primary Examiner, Art Unit 2621
April 27, 2009